

Ar
the support fiber web (38) is impregnated with the melt of the thermoplastic material under the influence of pressure, wherein the support fiber web (38) and the at least one thermoplastic film (40', 40'') are pressed and heated in a pass-through process, and

subsequently cooling, under maintenance of pressure, the thermoplastic material in the pass-through process with formation of hardened binder matrix.

23. A process according to Claim 22, wherein the support fiber web (38) and the at least one thermoplastic film (40', 40'') are drawn from supply rollers (32, 34', 34'') and are pressed, heated and cooled along the pass-through segment (28).
24. A process according to Claim 22, wherein the support fiber web (38) is conveyed to the pass-through segment (28) in the longitudinal direction of the reinforcing fibers.
25. A process according to Claim 22, wherein a protective film (42', 42'') is supplementally provided on the side of the thermoplastic film (40', 40'') facing away from the support fiber web to form a composite, wherein this composite is supplied to the support fiber web, and wherein during the heating and cooling process under the influence of pressure force the protective film is surface-bonded to the flat strip.
26. Process as in claim 25, wherein said surface-bonding of said protective film to said flat strip is releasable.

27. A process according to Claim 25, wherein the protective film (42', 42'') is drawn from a supply roll (36', 36'') and conveyed to the common pass through segment (28).
28. A process according to Claim 22, wherein flat strip (30) is wound upon at least one material roll (48) subsequent to the pass-through segment (28).
29. A process according to Claim 22, wherein subsequent to the pass-through segment (28) the flat strip (30) is subdivided into strips aligned parallel to the pass-through direction.
30. A process according to Claim 22, wherein the flat strip (30) subsequent to the pass through segment (28) is stored with formation of flat strip lamellas or stacks.
31. A process according to Claim 22, wherein the support fiber web (38), the at least one thermoplastic film (40' 40'') and the optional protective film (42', 42'') are pressed, heated and cooled between two rotating press bands (24) of a double band press (20).
32. A process according to Claim 22, wherein multiple individual flat strips are surface bonded with each other under the influence of pressure and heat for increasing the wall thickness.
33. A process for production of a flat strip, comprising:
permeating a support fiber web (38) comprised of a plurality of parallel oriented reinforcing fibers with

interwoven transverse fibers in a suspension (52) of finely divided thermoplastic plastic particles,

drying the thus permeated support fiber web under the influence of heat,

melting the thermoplastic material remaining upon the dried support fiber web under the influence of heat, and

subsequently cooling the thermoplastic material again with formation of solidified binder matrix.

34. A process as in claim 33, wherein said suspension is an aqueous suspension.

35. A process according to Claim 33, wherein said support fiber web (38) is drawn from a roll and is passed through the suspension (52).

36. A process according to Claim 33, wherein the flat strip (30) is pressed or calendered prior to, during or subsequent to the hardening of the binder matrix.

37. A process according to Claim 33, wherein multiple individual flat strips are surface bonded with each other under the influence of pressure and heat for increasing the wall thickness.

38. A flat strip lamella, comprised of a plurality of parallel oriented reinforcing fibers which are interwoven with transverse fibers for forming a support fiber web (38) and which together with the transverse fibers are embedded in a binder matrix of thermoplastic material, wherein the binder matrix permeates the free interstitial spaces of the support fiber web (38).

39. A flat strip lamella according to Claim 38, wherein the support fiber web embedded in the binder matrix is provided on at least one broad surface with a preferably releaseable protective film.

40. Flat strip lamella according to Claim 39, wherein the protective film is comprised of a duroplastic, such as polyester, or of an elastomer, such as silicon-rubber or of silicon treated paper.

41. A flat strip lamella according to Claim 38, wherein said thermoplastic material is selected from the group consisting of polyolefins, vinyl polymers, polyamides, polyacetals, polycarbonates, polyurethanes and ionomers.

42. A flat strip lamella according to Claim 38, wherein the reinforcing fibers consist of or include carbon fibers.

43. A flat strip lamella according to Claim 38, wherein the reinforcing fibers comprise or contain aramid fibers, glass fibers or polypropylene fibers.

44. A method for reinforcing a load bearing or load transmitting structure, the method comprising applying to the surface of said structure a flat strip lamella produced in accordance with claim 22.

REMARKS

The claims have been amended in order to eliminate multiple dependent claims and claims improperly depending from multiple